Claims:

1. A method for analyzing an acoustical environment comprising:

- registering acoustical signals at at least two reception locations mutually distant by a given distance and generating at least two respective first electric signals representing said acoustical signals;
- calculating electronically from said first electric signals at least one of the distances of sources of acoustical signals with respect to at least one of said locations, thereby generating a distance signal;
- amplitude filtering said distance signal, thereby generating a patterned distance signal;
- weighing a signal dependent from at least one of said first signals by said patterned distance signal, thereby generating an output signal representing said acoustical signals from sources distributed in said environment within a distance pattern.

2. The method of claim 1, further comprising performing said calculating according to

$$r_1 = \frac{|d|\,|S_2|}{|S_1|\,(-)\,|S_2|}$$

wherein there stands:

r_1: for the shorter distance of the at least two distances from the at least two locations to an acoustical signal source

$|d|$: the magnitude of the difference of the distances between said at least two locations and said acoustical signal source

$|S_1|$ the electric signal representing the acoustical signal as registered at said one of said at least two locations with said shorter distance from said acoustical signal source, taken its absolute value and averaged over a predetermined amount of time T

$|S_2|$ the electric signal representing the acoustical signal as registered at the second location with a larger distance from said acoustical signal source, taken its absolute value and averaged over the predetermined amount of time T.

3. The method of claim 1 or 2, wherein said amplitude filtering is performed by means of at least one, preferably by just one, band-pass amplitude filtering, passing amplitude values within a predetermined amplitude band.

4. The method of one of claims 1 to 3, thereby generating said signal dependent from said first electric signals by weighing said first electric signals in dependency of the fact under which spatial angle the respective acoustical signals impinge at said at least two reception locations.

5. The method of one of claims 1 to 4, further comprising the step of performing said amplitude filtering with an adjustable filter characteristic.

6. The method of one of claims 1 to 5, further comprising the step of performing said registering with at least two microphones of a hearing aid apparatus and/or by at least two microphones, each one of the microphones of a binaural hearing aid system.

7. The method of one of claims 1 to 6, further comprising the step of generating said first electric signals as digital signals.

8. The method of claim 7, further comprising the step of generating said first electric signals as time to frequency domain converted signal.

9. A system for analyzing an acoustical environment comprising:

- at least two acoustical to electrical converters mutually distant by a predetermined distance and generating respective first electric output signals at at least two outputs of said converters;
- a calculating unit, the inputs thereof being operationally connected to said outputs of said converters and generating at an output a signal which is representative of a distance of an acoustical source in said environment with respect to one of said acoustical to electrical converters;
- an amplitude filter unit with an input operationally connected to the output of said calculation unit and generating at an output an output signal which is dependent from a signal to the input of said amplitude filter unit weighed by a function which is dependent from the amplitude of said input signal;
- a weighing unit with at least two inputs, one thereof being operationally connected to the output of said amplitude filter unit and the second input thereof being operationally connected to at least one of said outputs of said converters.

10. The system of claim 9, said at least two acoustical to electrical converters being mounted on a single hearing aid apparatus or being mounted to two hearing aid apparatuses of a binaural hearing aid apparatus set.

11. The system of claim 9 or 10, wherein said first electric output signals are led to respective analogue to digital converters and time domain to frequency domain converters before applied to said calculating unit.

12. The system of one of claims 9 to 11, wherein said amplitude filter unit has a band-pass characteristic.

13. The system of one of claims 9 to 12, the amplitude transfer characteristic of said amplitude filter being adjustable.

14. The system of one of claims 9 to 13, wherein said at least two outputs of said converters are operationally connected to a beam former unit, the output of said beam former unit being operationally connected to said second input of said weighing unit.

15. The system of one of claims 9 to 14, the output of said weighing unit being frequency domain to time domain converted and digital to analogue converted, the output signal of said conversion being operationally connected to an electrical to mechanical transducer of at least one hearing aid apparatus.